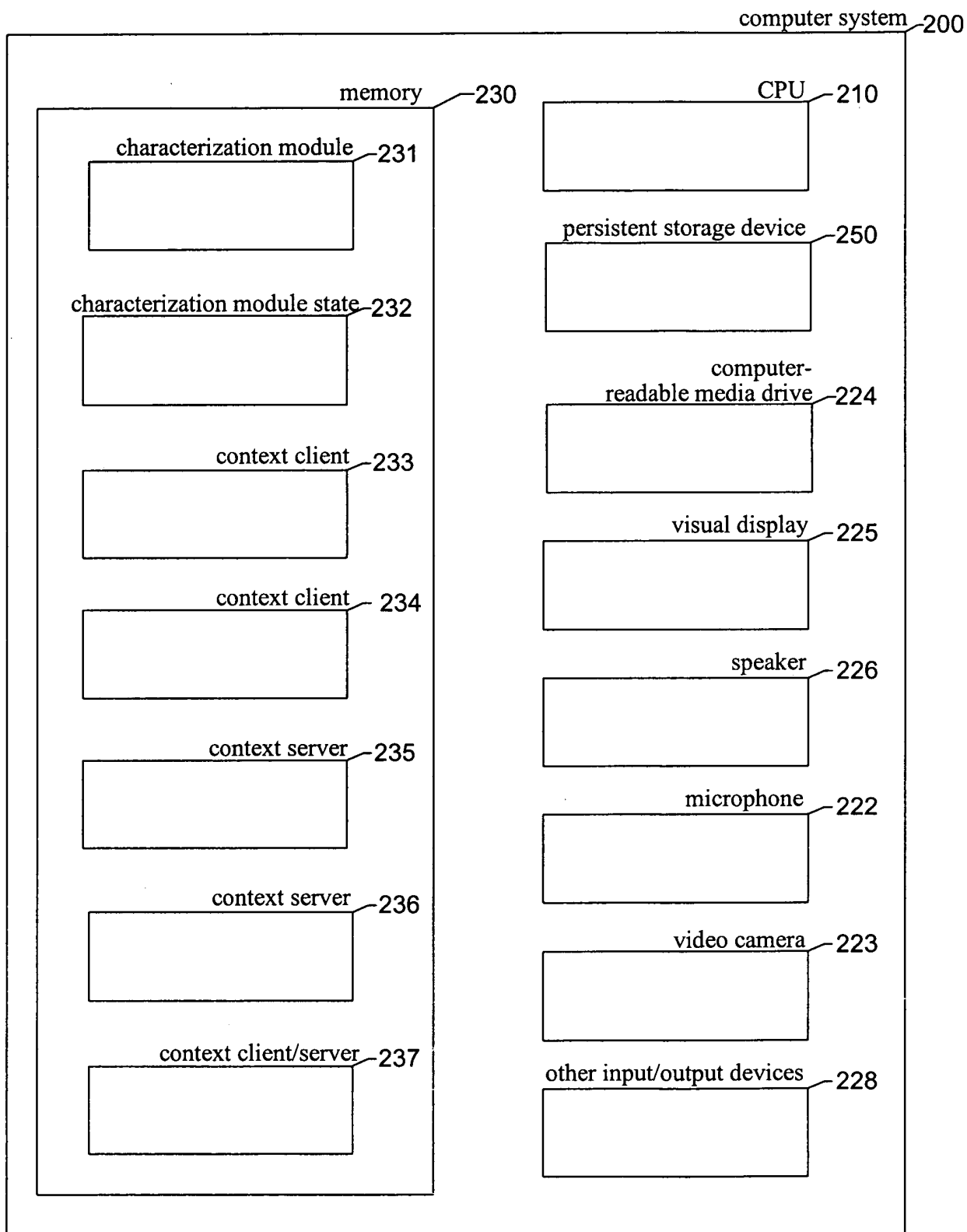
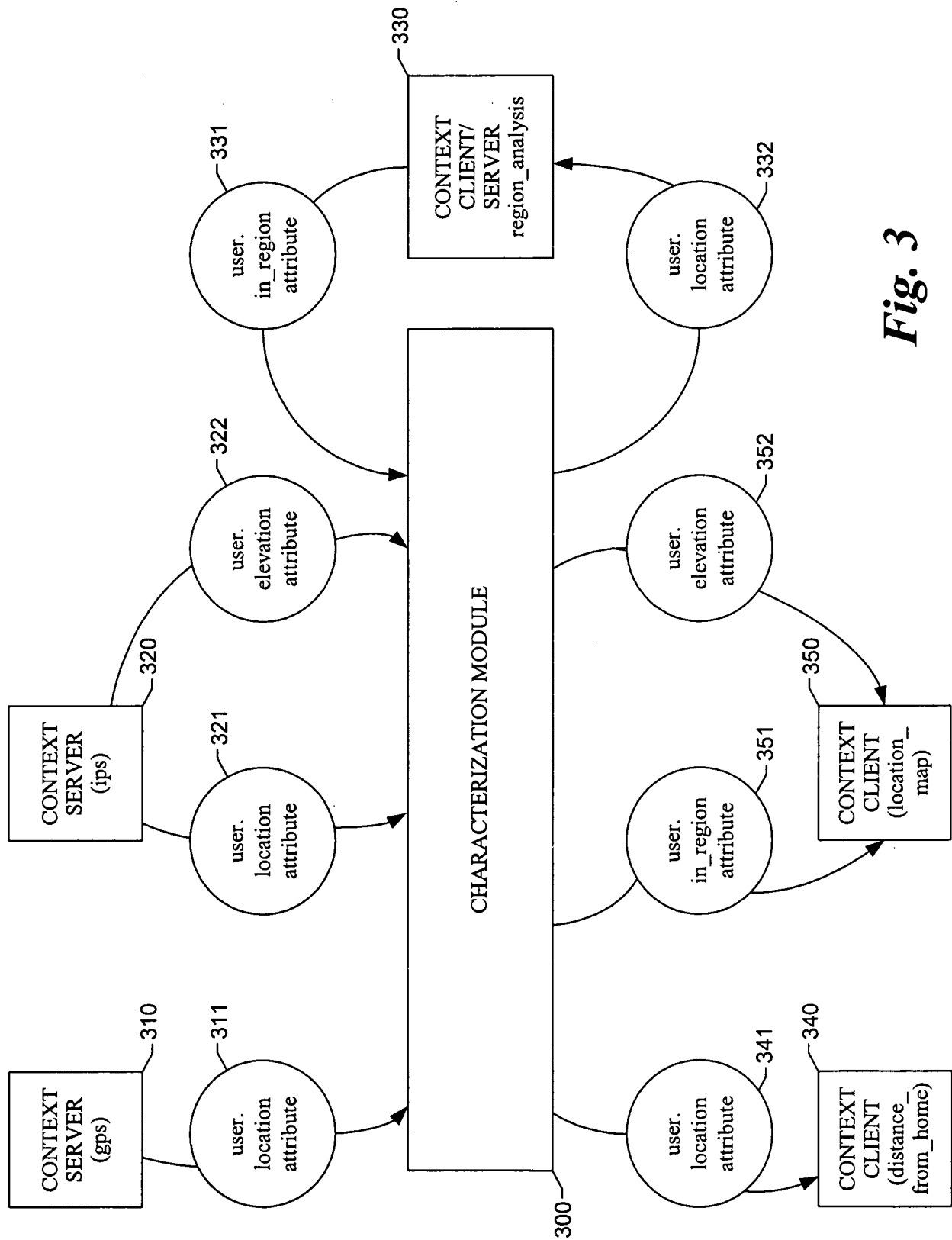
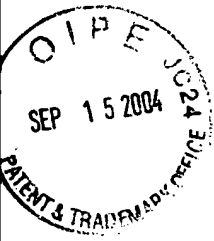


**Fig. 1**



**Fig. 2**



**Fig. 3**



context server table 400				
context server name	version	installation date	filename	request handler
401 gps	1	2/10/2000	gps.exe	(reference)
402 ips	1	2/21/2000	ips.exe	(reference)
403 location_region_analysis	1	2/10/2000	l_r_a.exe	(reference)

**Fig. 4**

attribute instance table						
attribute name	context server name	value	uncertainty	timestamp	units	number of context clients consuming
501 user.location	gps	47° 38.73' N, 122° 18.43' W	0° .09'	13:11:04.023 2/22/2000	degrees/minutes	2
502 user.location	ips	47° 38.745' N, 122° 18.424' W	0° .021'	13:11:01.118 2/22/2000	degrees/minutes	2
503 user.elevation	ips	22	.5	13:11:01.118 2/22/2000	meters	1
504 user.in_region	location_region_analysis	none	none	none	none	0

**Fig. 5**



600	context client name	message handler	context client table	
601	location_map	(reference)		
602	distance_from_home	(reference)		
603	region_analysis	(reference)		

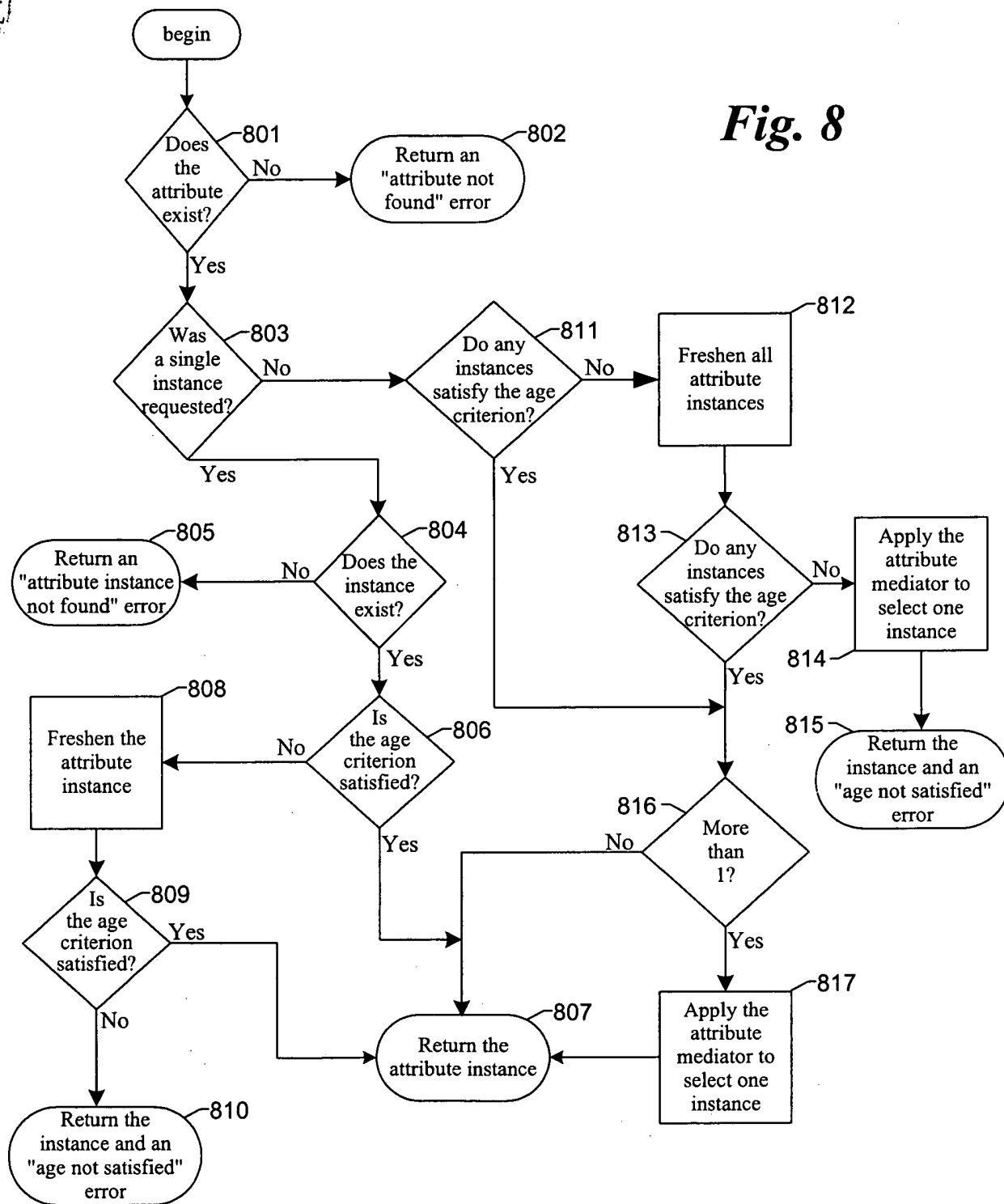
**Fig. 6**

700	attribute name	context server name	value	uncertainty	timestamp	units	number of context clients consuming
701	user.location	gps	47° 38.73' N, 122° 18.43' W	0° .09'	13:11:04.023 2/22/2000	degrees/minutes	2
702	user.location	ips	47° 38.745' N, 122° 18.424' W	0° .021'	13:11:01.118 2/22/2000	degrees/minutes	2
703	user.elevation	ips	22	.5	13:11:01.118 2/22/2000	meters	1
704	user.in_region	location_region_analysis	none	none	none	none	1

**Fig. 7**



**Fig. 8**





900	attribute name	context server name	value	uncertainty	timestamp	units	number of context clients consuming
901	user.location	gps	47° 38.73' N, 122° 18.43' W	0° .09'	13:11:04.023 2/22/2000	degrees/minutes	2
902	user.location	ips	47° 38.745' N, 122° 18.424' W	0° .021'	13:11:01.118 2/22/2000	degrees/minutes	2
903	user.elevation	ips	22.25	.5	13:11:06.565 2/22/2000	meters	1
904	user.in_region	region_analysis	none	none	none	none	1
917							

**Fig. 9**

1000	condition name	context client name	first logical parameter	second logical parameter	comparison value	logical operator
1001	in_region_true	region_analysis	user.in_region	none	TRUE	=
1016						

**Fig. 10**



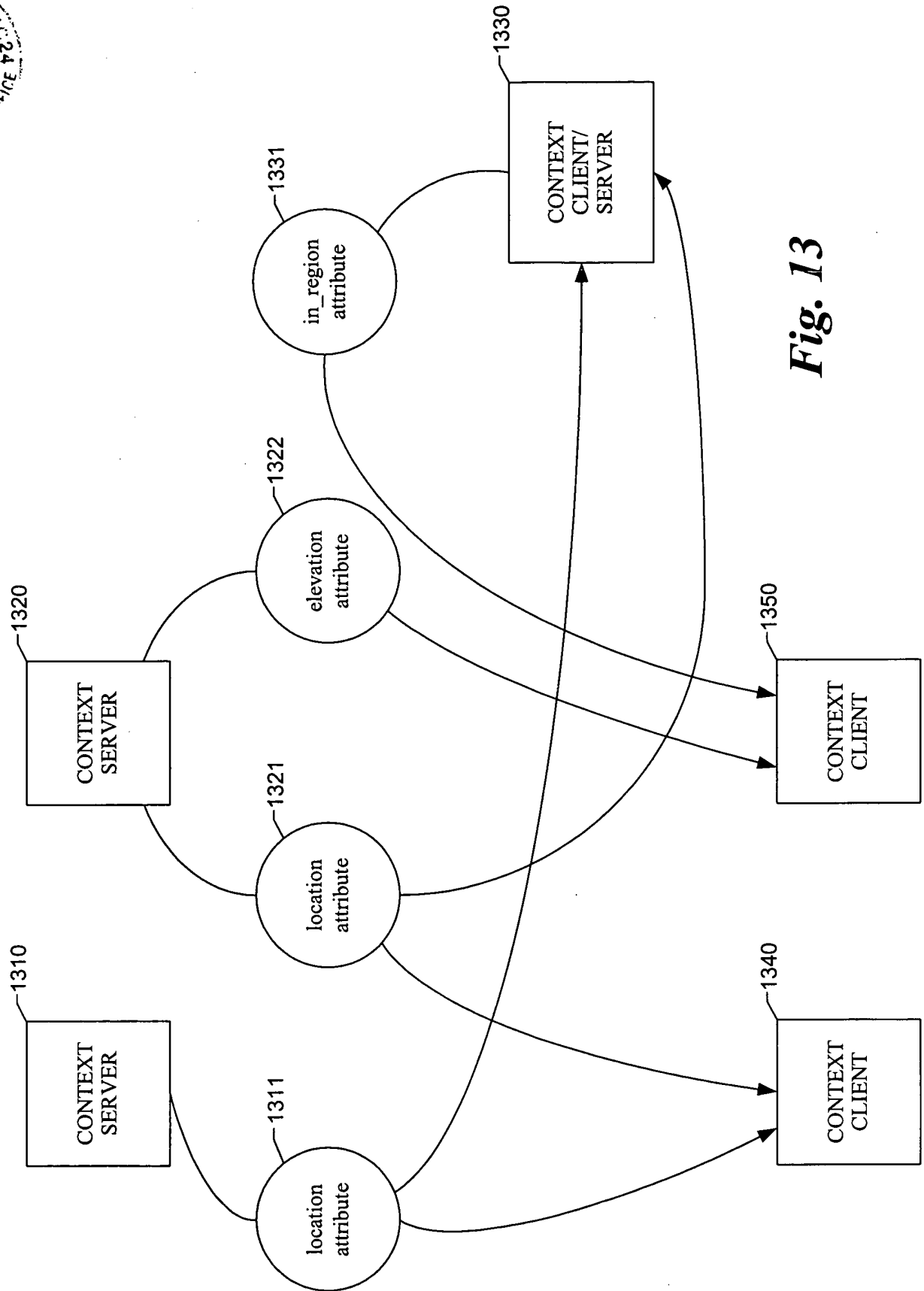
condition monitor table								
condition monitor name	context client name	condition name	behavior	frequency	condition last evaluated	trigger handler reference	stopped	
region_boundary_crossed	region_analysis	in_region_true	TRUE or FALSE	30	13:11:29.101 2/22/2000	(reference)	no	

*Fig. 11*

condition monitor table								
condition monitor name	context client name	condition name	behavior	frequency	condition last evaluated	trigger handler reference	stopped	
region_boundary_crossed	region_analysis	in_region_true	TRUE or FALSE	30	13:11:59.101 2/22/2000	(reference)	yes	

*Fig. 12*





*Fig. 13*

attribute request table	
attribute name	context client name
1401 user.location	distance_from_home
1402 user.in_region	location_map
1403 user.location [gps]	location_region_analysis
1404 user.elevation	location_map

**Fig. 14**

**User.**

Desired\_privacy\_level  
 Interruptibility  
 Speed  
 Direction  
 Acceleration  
 Availability.  
     Cognitive\_availability  
     Tactile\_availability  
     Manual\_availability  
     Visual\_availability  
     Oral\_availability  
     Auditory\_availability  
 Proximity.<Item or place name>  
 Mood.

Happiness  
 Sadness  
 Anger  
 Frustration  
 Confusion

**Activity.**

Driving  
 Eating  
 Running  
 Sleeping  
 Talking  
 Typing  
 Walking

**Location.**

Place\_name  
 Latitude  
 Longitude  
 Altitude  
 Room  
 Floor  
 Building  
 Address  
 Street  
 City  
 County  
 State  
 Country  
 Postal\_Code

Destination. (same as User.Location.)

**Physiology.**

Pulse  
 Body\_temperature  
 Blood\_pressure  
 Respiration

**Person.**<name or ID>. (same as User.)

**Platform.****UI.**

Oral\_input\_device\_availability  
 Manual\_input\_device\_availability  
 Tactile\_output\_device\_availability  
 Visual\_output\_device\_availability  
 Auditory\_output\_device\_availability

**Platform. (continued)****CPU.**

Load  
 Speed

**Memory.**

Total\_capacity  
 Used

**Storage.**

Total\_capacity  
 Used

**Connectivity.**

Connection\_status  
 Connection\_speed  
 Connection\_type/device  
 Connection\_activity

**Power.**

Power\_source  
 Power\_level

**Environment.****People.**

Nearest  
 Number\_present  
 Number\_close

**Local.**

Time  
 Date  
 Temperature  
 Pressure  
 Wind\_speed  
 Wind\_direction  
 Absolute\_humidity  
 High\_forecast\_temperature  
 Low\_forecast\_temperature  
 People\_present  
 Ambient\_noise\_level  
 Ambient\_light\_level  
 Days.<previous or future>.  
     High\_temperature  
     Low\_temperature  
     Precipitation\_type  
     Precipitation\_amount

Place.<place name>. (same as Environment.Local)

**Application.****Mail.**

Available  
 New\_messages\_waiting  
 Messages\_waiting\_to\_be\_sent

**Phone.**

Available  
 In\_use  
 On/off  
 Notification\_mechanism  
 Call\_incoming  
 Caller\_ID

**Sound\_recorder.**

Available  
 Recording

*Fig. 15*

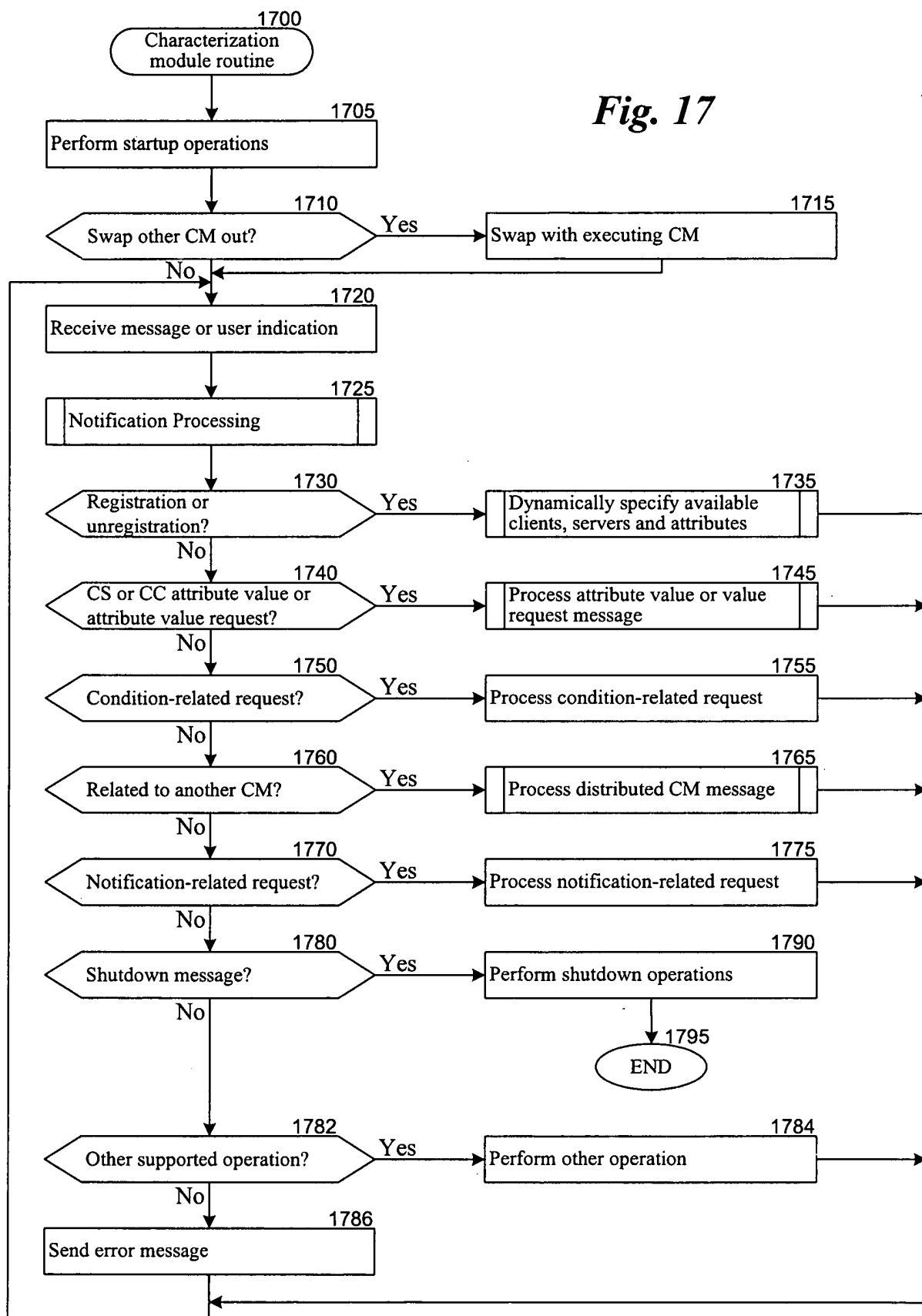


**Fig. 16**

- 1) User Setting
    - a) Mental Context
      - i) Meaning
      - ii) Cognition
        - (1) Divided User Attention
        - (2) Task Switching
        - (3) Background Awareness
      - iii) Solitude
      - iv) Privacy
        - (1) Desired Privacy
        - (2) Perceived Privacy
      - v) Social Context
      - vi) Affect
    - b) Physical Situation
      - i) Body
        - (1) Biometrics
        - (2) Posture
        - (3) Motion
        - (4) Physical Encumbrment
          - (a) Senses
            - (i) Eyes
            - (ii) Ears
            - (iii) Tactile
            - (iv) Hands
            - (v) Nose
            - (vi) Tongue
          - (b) Workload demands/effects
          - (c) Interaction with computer devices
          - (d) Interaction with people
          - (e) Physical Health
      - ii) Environment
        - (1) Time/Space
        - (2) Objects
        - (3) Persons
          - (a) Audience/Privacy Availability
            - (i) Scope of Disclosure
            - (ii) Hardware affinity for privacy
            - (iii) Privacy Indicator for User
            - (iv) Privacy Indicator for Public
            - (v) Watching Indicator
            - (vi) Being Observed Indicator
      - (4) Ambient Interference
        - (a) Visual
        - (b) Audio
        - (c) Tactile
- 2) Computer
  - a) Power
  - b) Configuration
    - i) User Input Systems
      - (1) Hand/Haptic
        - (a) Keyboard/Keystrokes
      - (2) Voice/Audio
      - (3) Eye Tracking
      - (4) Cursors
        - (a) Axis
        - (b) Resolution
          - (i) Selection
          - (ii) Invocation
        - (c) Accelerators
    - ii) Output Systems
      - (1) Visual
        - (a) Resolution
      - (2) Audio
        - (a) Public/Private
      - (3) Haptic
    - iii) External Resources
      - (1) I/O devices
      - (2) Connectivity
  - c) Data
    - i) Quantity/State
    - ii) Urgency/Importance
      - (1) Use of Prominence
    - iii) Modality
    - iv) Sensitivity/Purpose
      - (1) Privacy Issues
      - (2) Use of Association
      - (3) Use of Safety
    - v) Source/Ownership
      - (1) Types
        - (a) User generated
        - (b) Other computers or people
        - (c) Sensor
        - (d) PC State
      - (2) Use of Association

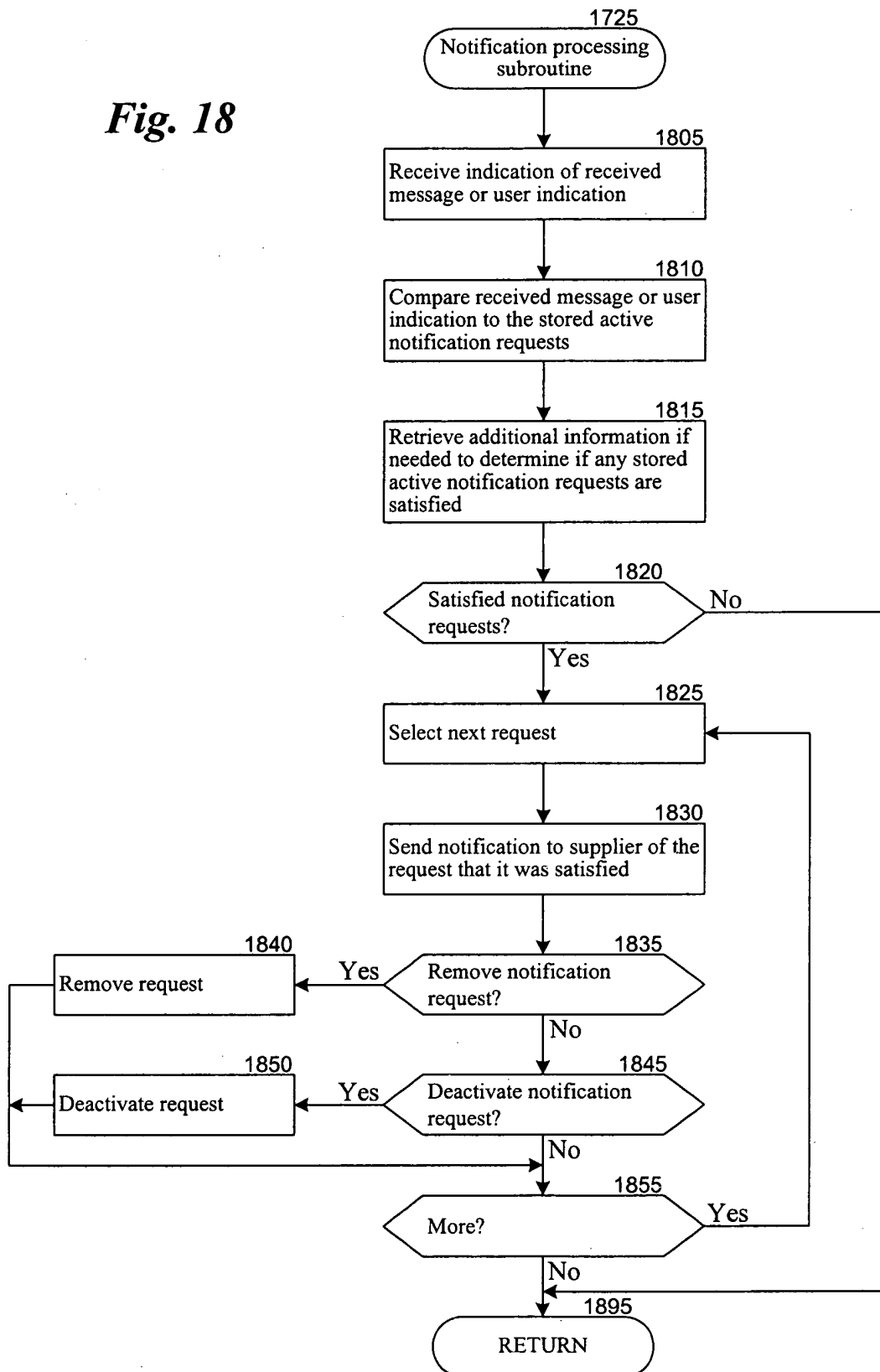


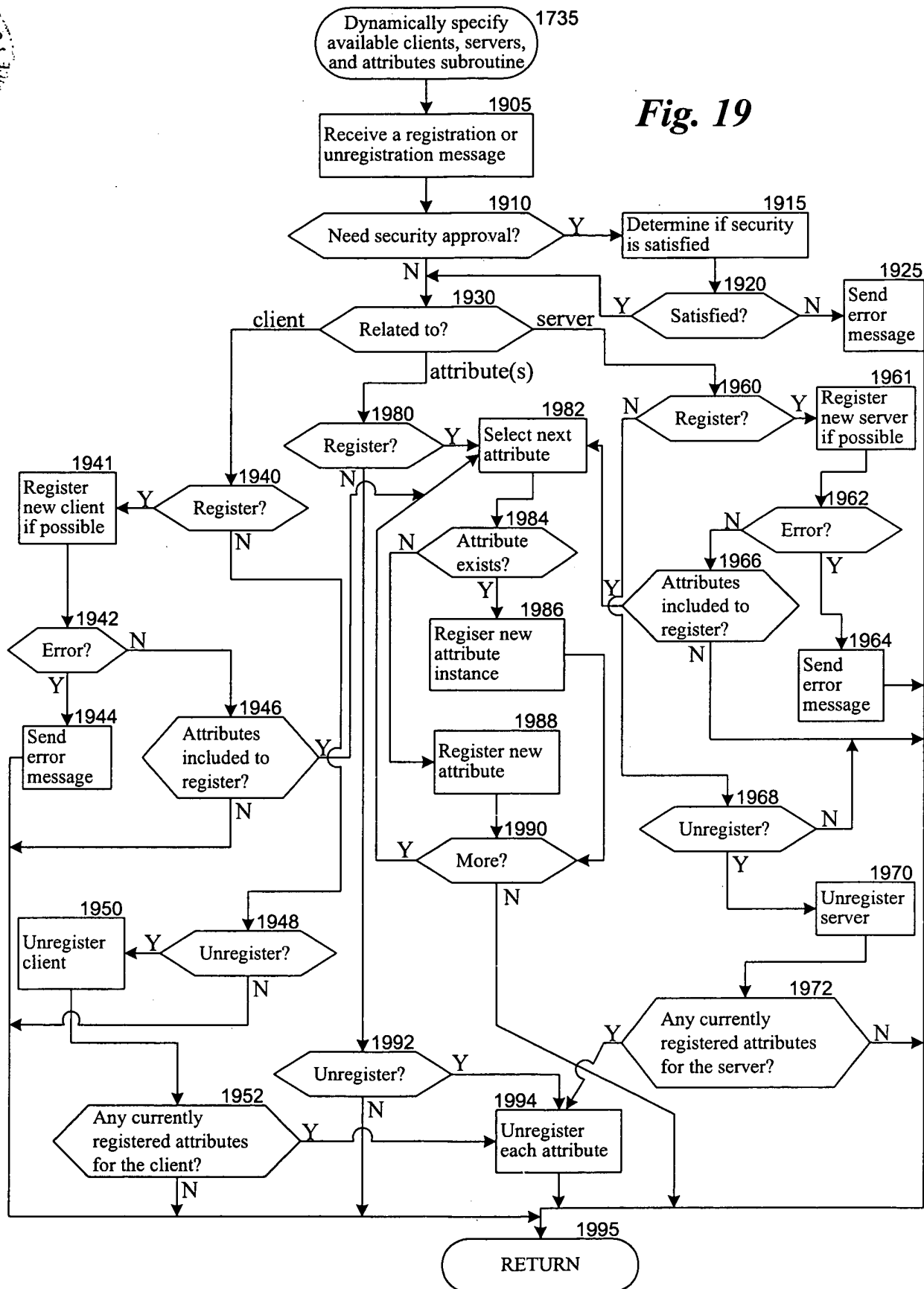
*Fig. 17*

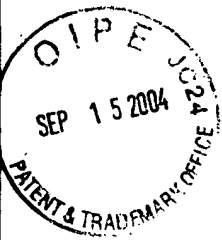




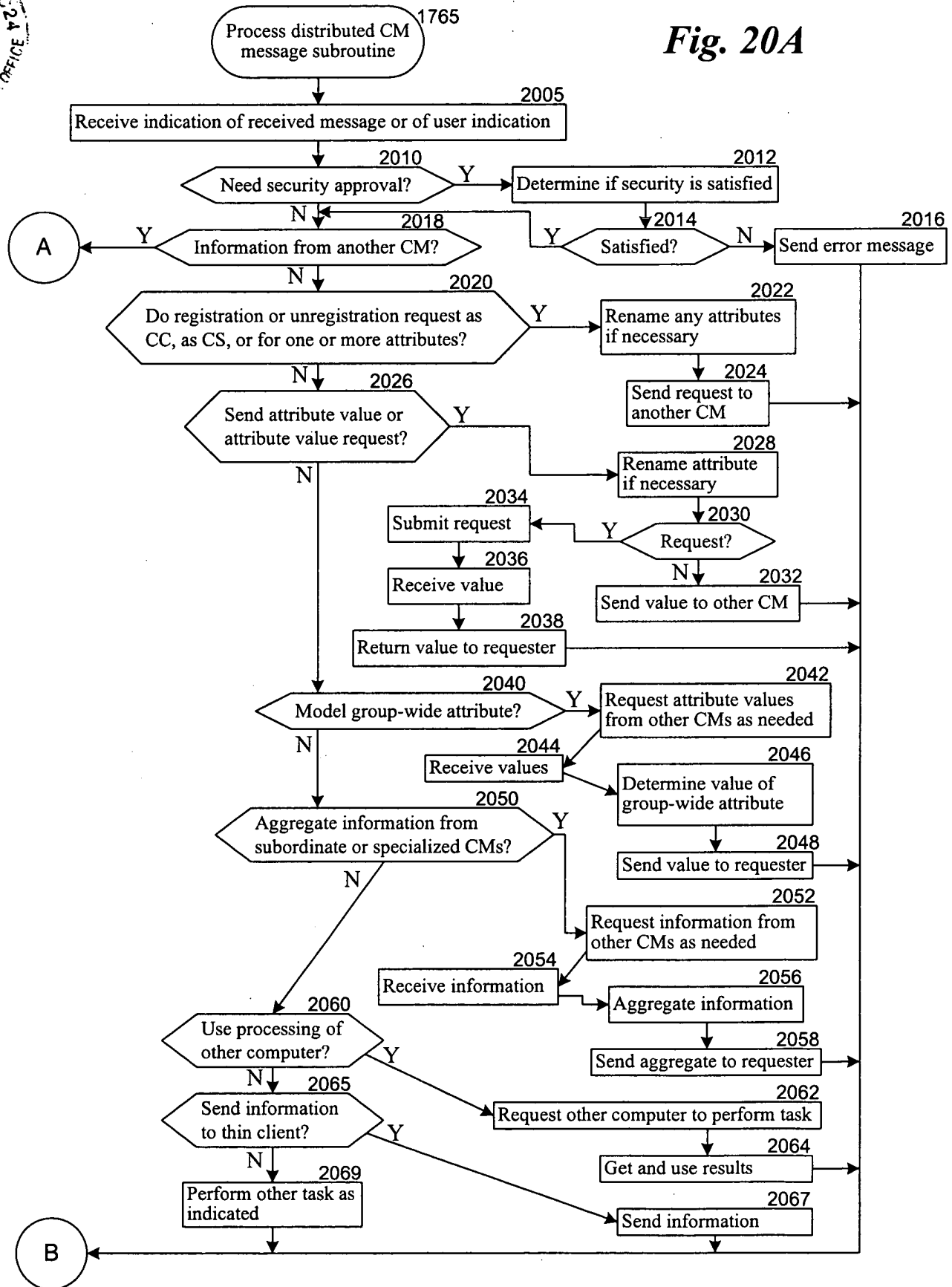
**Fig. 18**



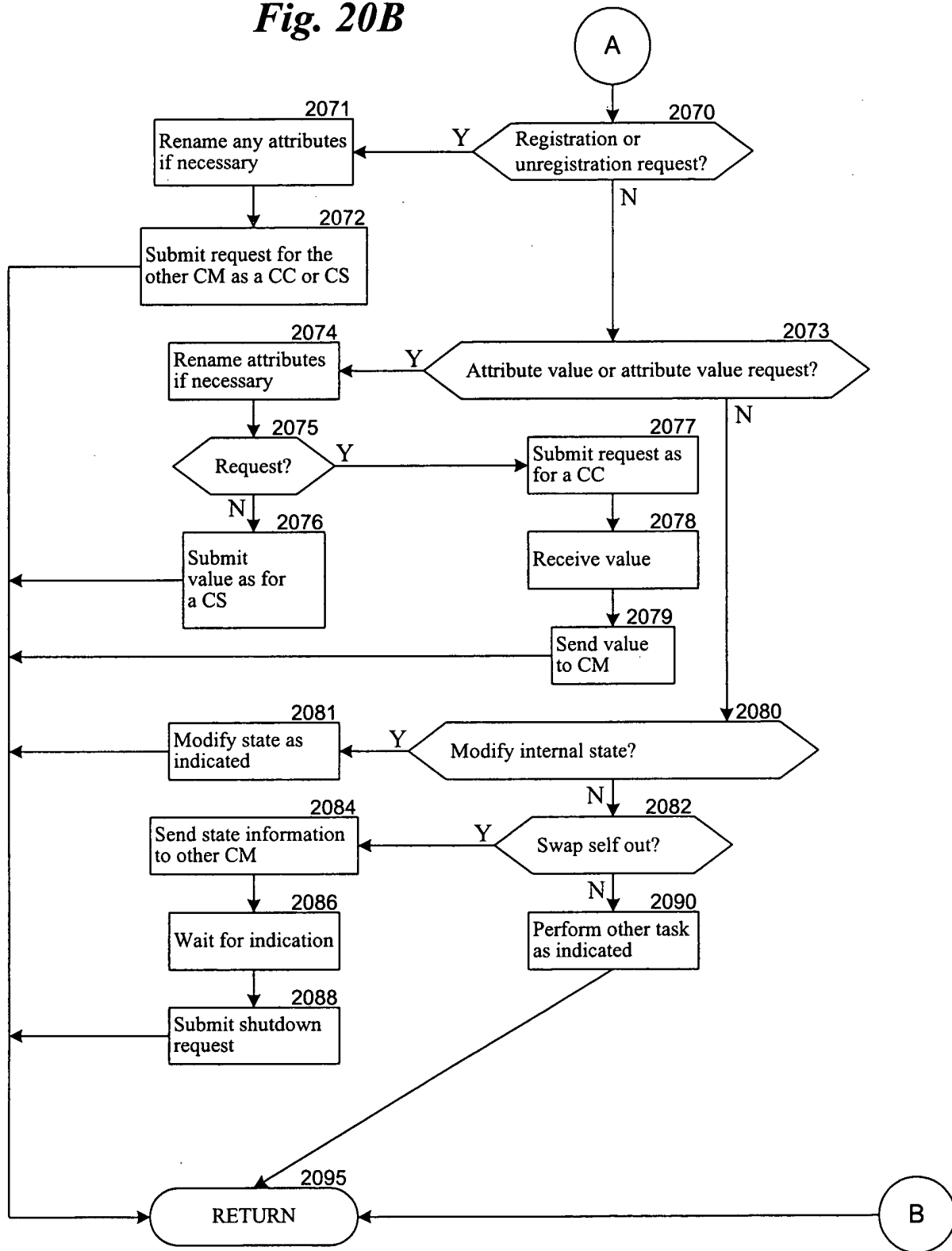
**Fig. 19**

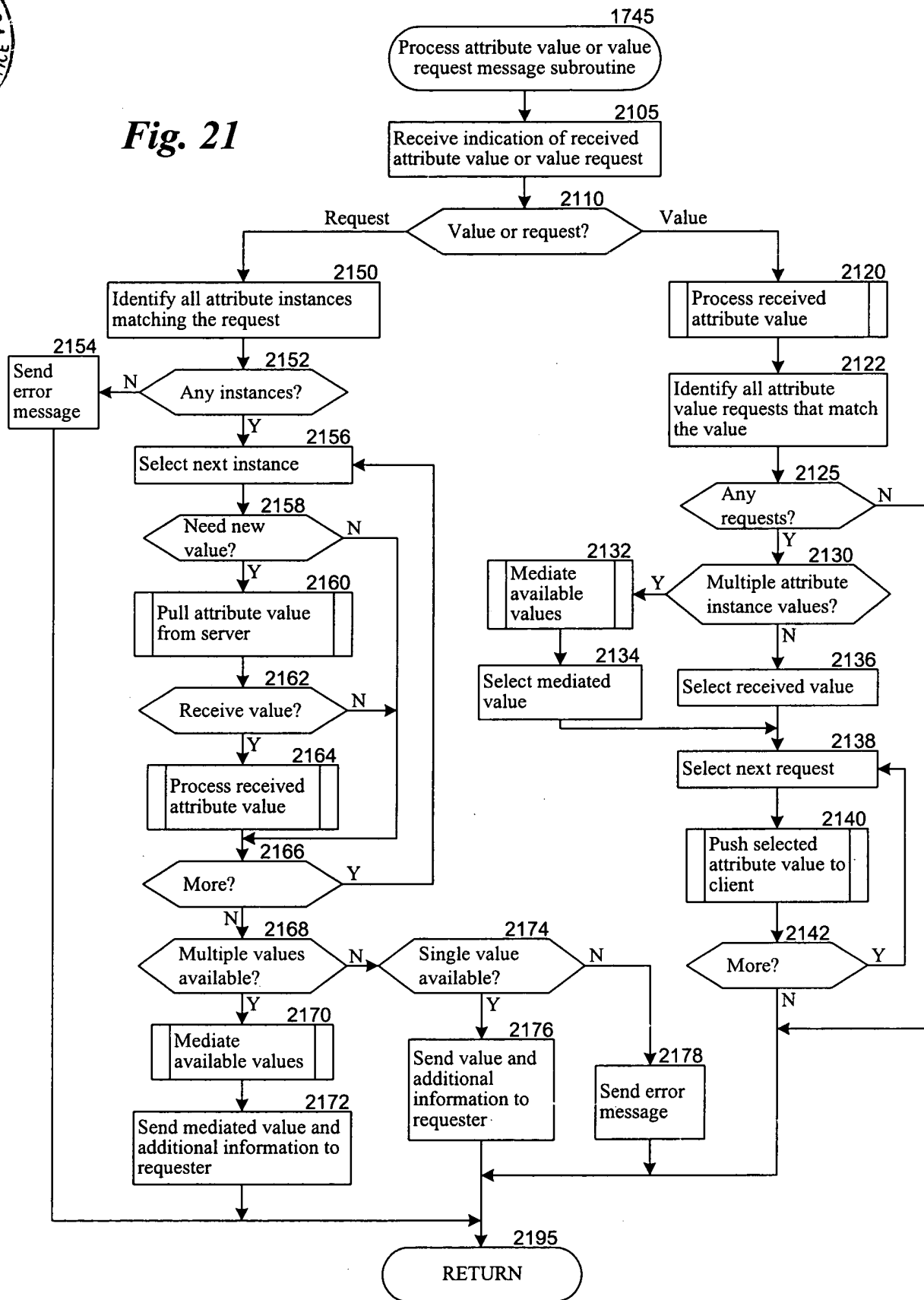


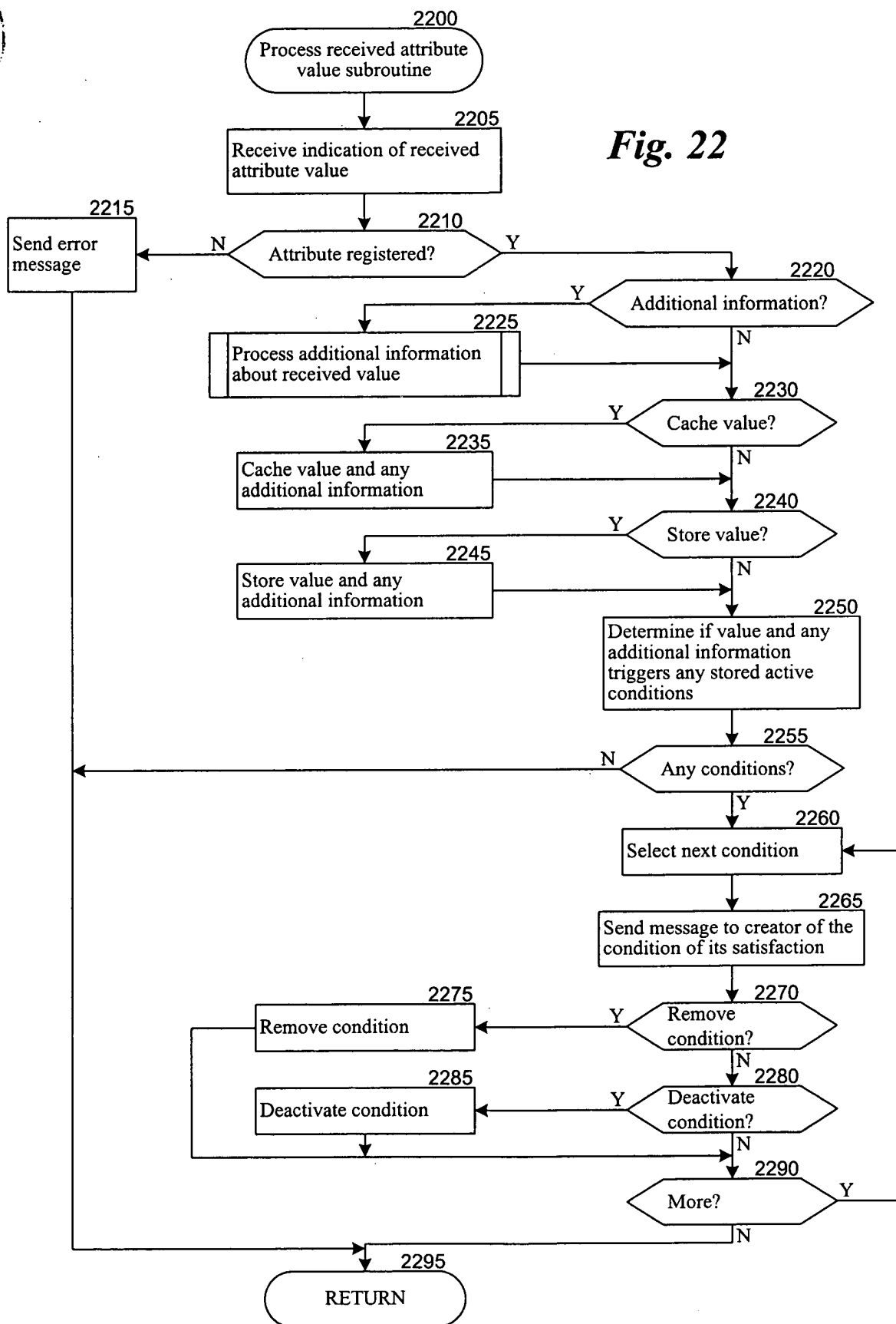
**Fig. 20A**





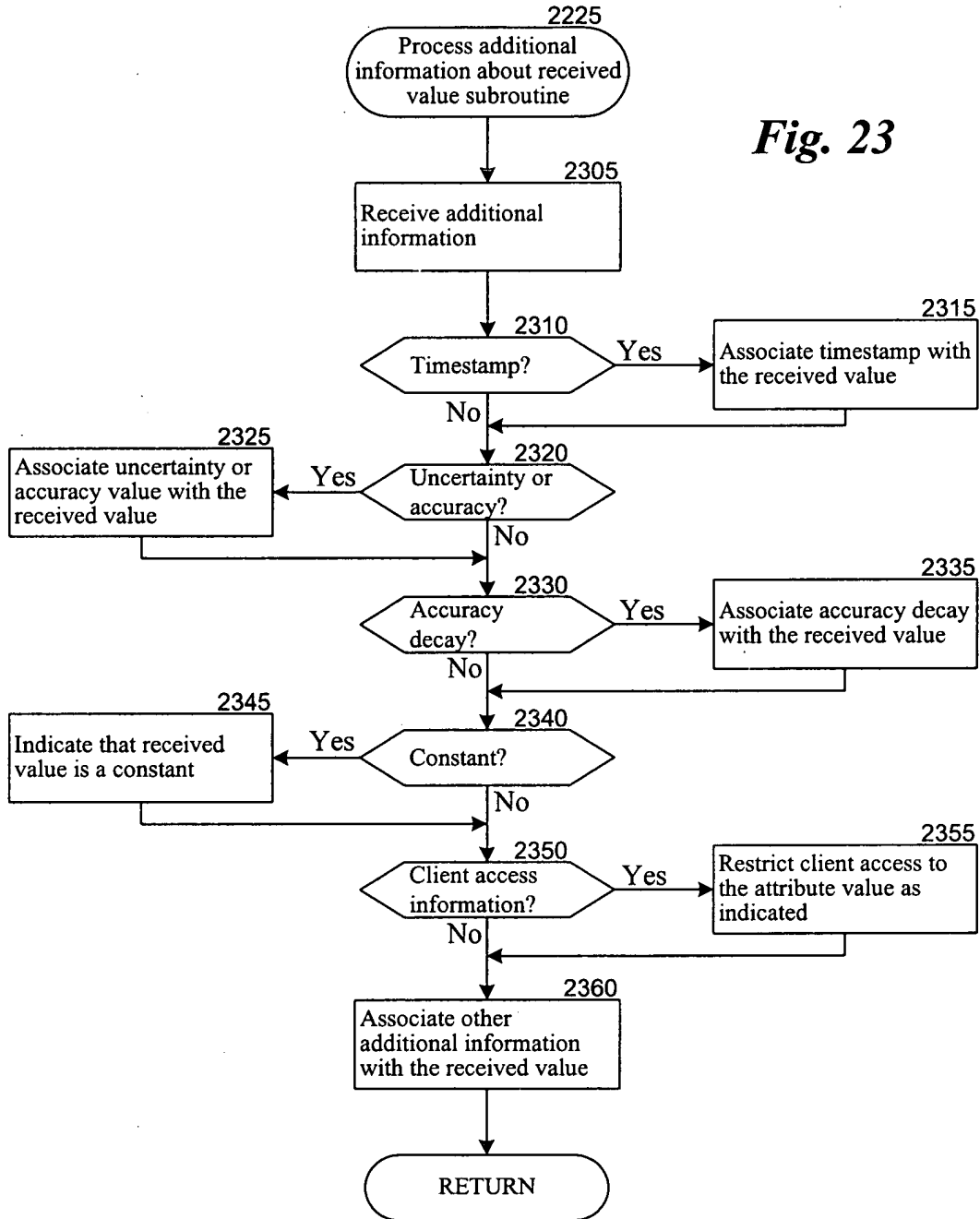
**Fig. 20B**

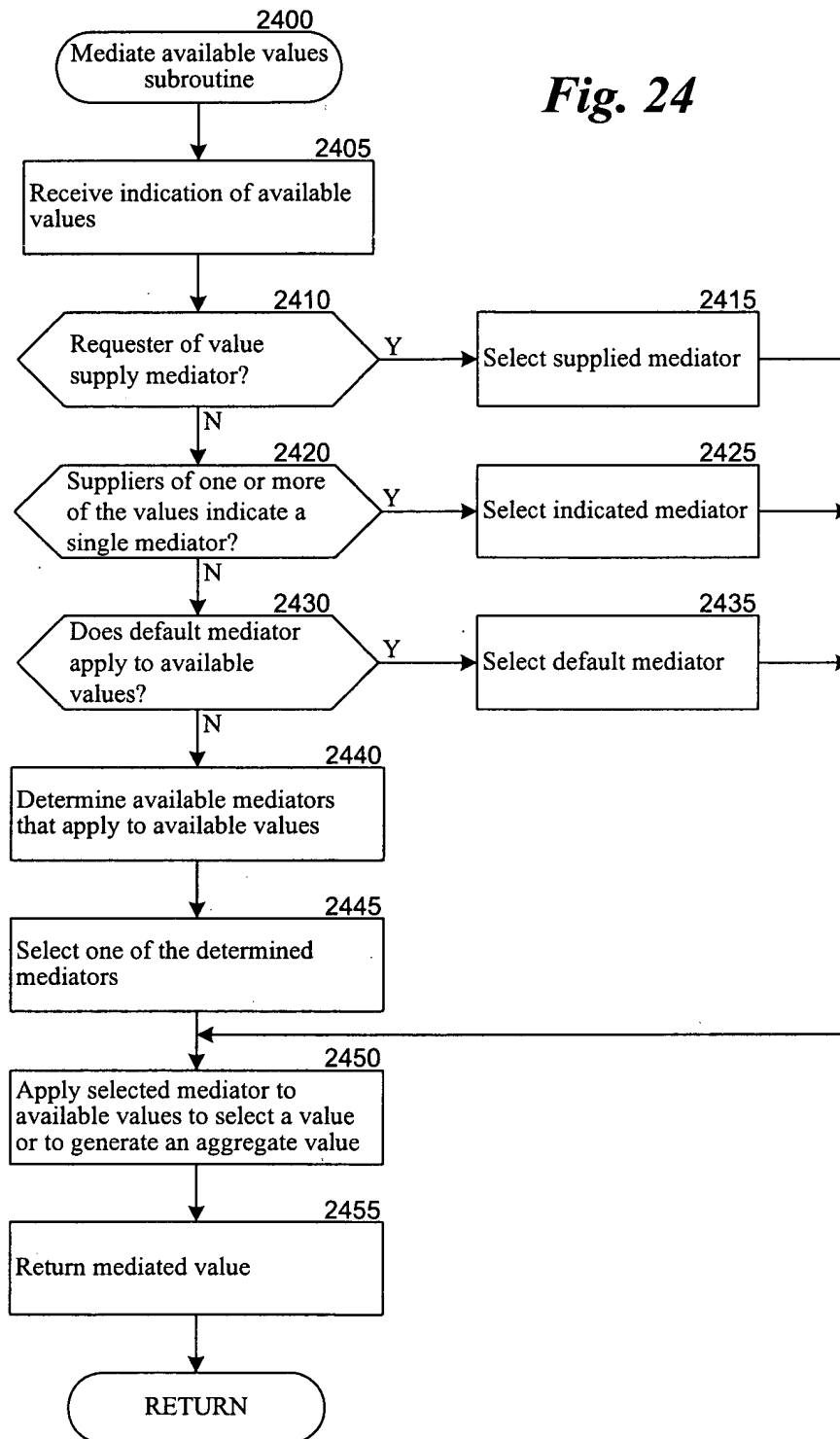
**Fig. 21**

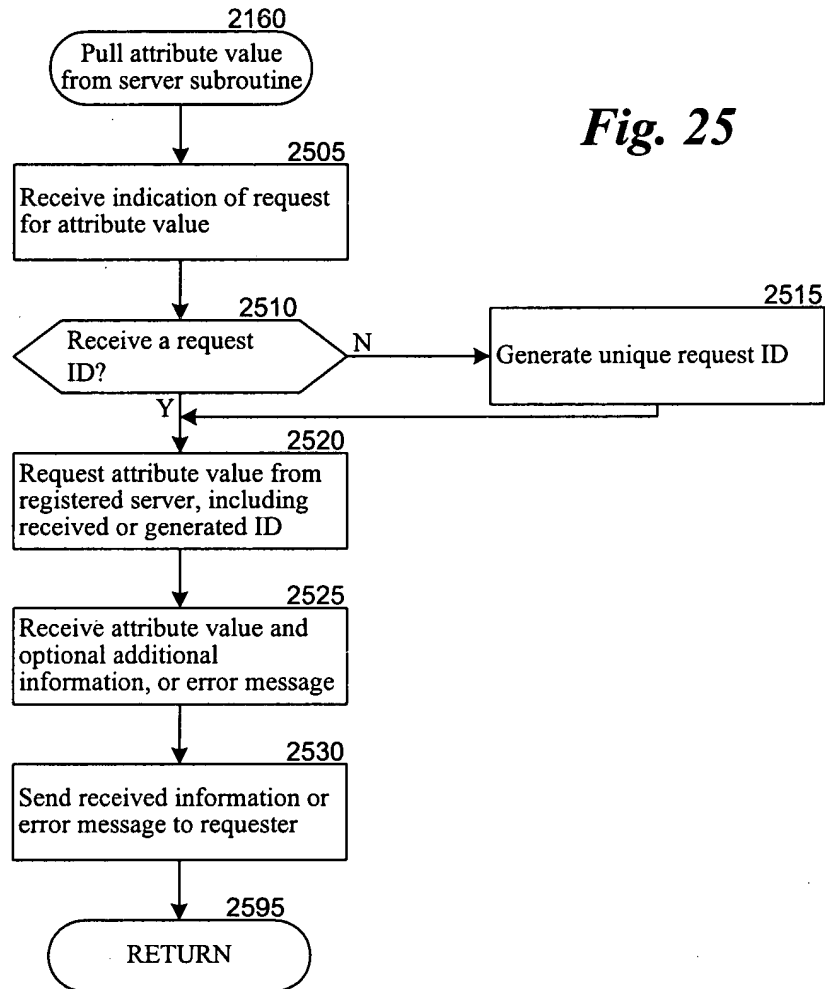
**Fig. 22**



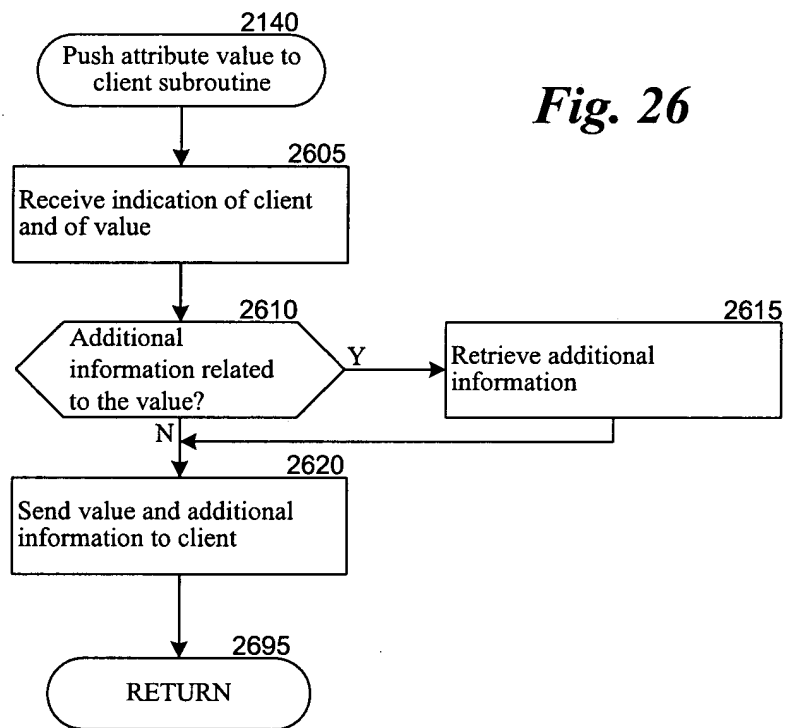
**Fig. 23**

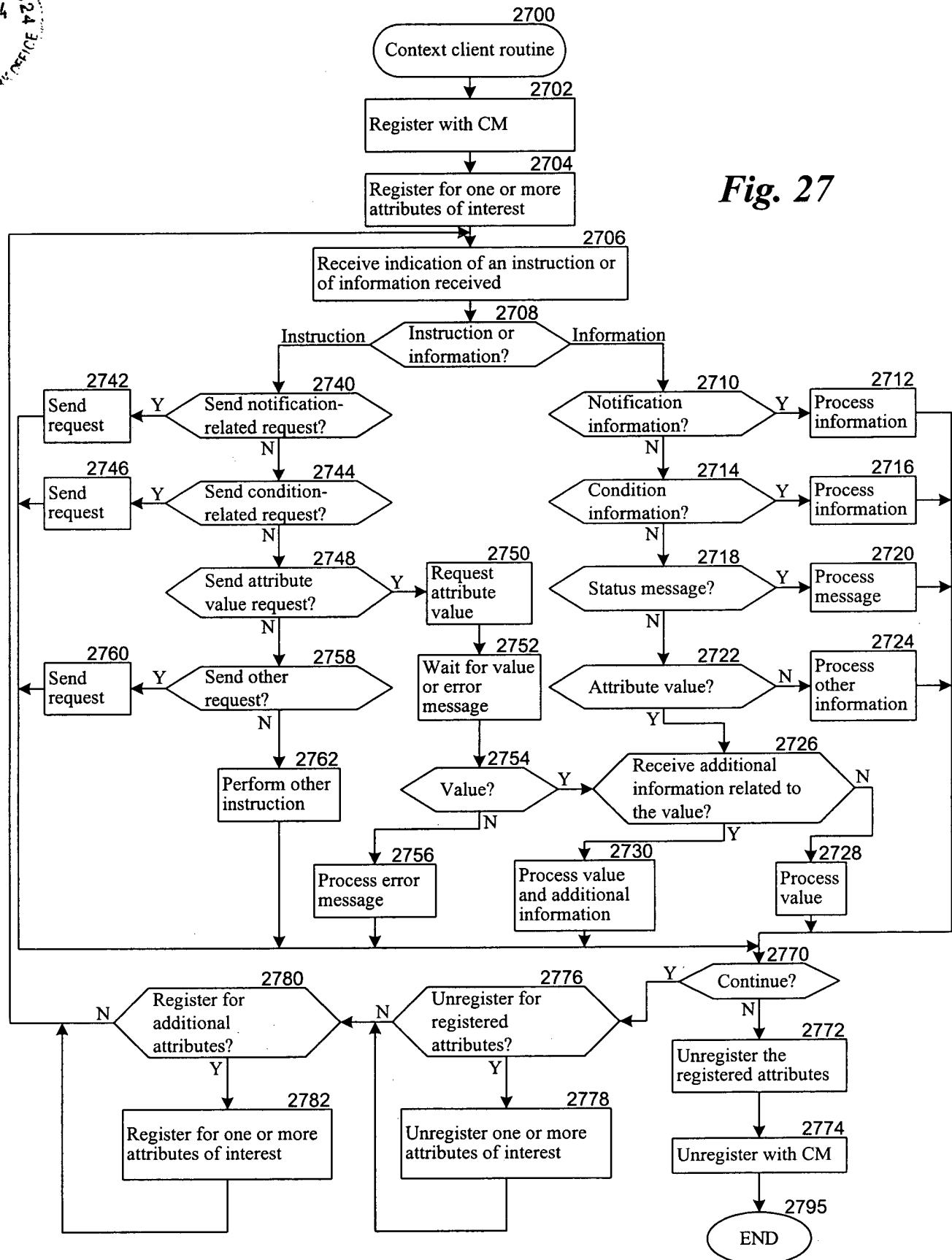


*Fig. 24*



**Fig. 25**



**Fig. 27**



**Fig. 28**